

REMARKS

Applicants have amended claims 5, 7, 9, 10, 11, 14, 27 and 29 to address the issues raised in the final Office Action (Paper No. 10) dated December 30, 1999, in the parent application of the above-captioned patent application.

Claims 5, 7, 9, 10, 11 and 14 have each been amended to better distinguish over the applied art by replacing the term "transmitting" with the term "broadcasting". Applicants submit that use of the term "broadcasting" now appearing in each of claims 5, 7, 9, 10, 11 denotes a general and non-addressed transmission of data to at least one receiving station, as is understood in the art, and is distinguished from an addressed transmission of data, that is, transmitting data to specific local stations using explicit addressing for each receiving station. *not in spec*

New claims 39-50 have been added and are directed to the concept of unsolicited error correction request signals.

Consideration and allowance of all the claims pending in the application are respectfully requested.



The Rejection Under 35 U.S.C. § 112, Second Paragraph

Claims 5-8 and 31-34 of the parent application were rejected under 35 U.S.C. § 112, second paragraph, as indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention.

Regarding claim 5, Applicants have amended claim 5 to now require “the means for rebroadcasting is operable, if a plural number of said error correction request signals indicating the same selected frame are received within a predetermined period, to rebroadcast said same selected frame less than said plural number of times.” Thus, the phrase “said plural number of times” refers to the “plural number of said error correction request signals indicating the same frame”.

Regarding claim 7, Applicants submit that the phrase “said plural number of times” has antecedent basis in the phrase “a plural number of said error correction request signals indicating the same frame” appearing at line 5 of originally-filed claim 7.

Regarding claims 9 and 10, claims 9 and 10 have each been amended for clarity so that “a sequential order of said new frame is not greater than a sequence order of the earliest of said frames which has been indicated to not have been received by any one of said receiving stations by a predetermined number.”

Thus, Applicants respectfully request that the Examiner withdraw this rejection.

The Rejection Under 35 U.S.C. § 102(b) Over Spragins



Claims 19, 20, 22, 23 and 27-30 of the parent application were rejected under 35 U.S.C. § 102(b) as anticipated by Spragins et al. (Spragins), Telecommunications Protocols and Design, Addison-Wesley Publishing Company, July 1992.

Applicants respectfully submit that the present invention according to claims 19, 20, 22, 23 and 27-30 is not anticipated by Spragins.

Regarding claim 19, Applicants again respectfully submit that Spragins does not disclose an apparatus for receiving data from a broadcast station having means for transmitting to the broadcast station at predetermined intervals an error status signal. Spragins discloses an error correction request signal is used that indicates negative acknowledgment or selected ones of frames that were not received correctly. According to Spragins, the nature of the error that the error correction request signal is used for is a random event. That is, Spragins uses the error correction request signal in response to an error condition. Based on the random nature of an error event, it follows that Spragins does not transmit the error correction request signal at predetermined intervals.

Thus, claim 19 is allowable over Spragins. Additionally, Applicants respectfully submit that claim 20, which incorporates the limitations of claim 19, is allowable over Spragins for at least the same reason that claim 19 is considered allowable.

Regarding claim 22, Applicants respectfully submit that Spragins does not disclose a method having the step of transmitting to the broadcast station at predetermined intervals an error status signal. As shown in connection with claim 19, Spragins discloses an error correction request signal that is transmitted at random time intervals in response to the occurrence of an error condition.

Thus, claim 22 is allowable over Spragins. Claim 23, which incorporates the limitations of claim 22, is allowable over Spragins for at least the same reasons that claim 22 is considered allowable.

Regarding claim 27, Applicants respectfully submit that claim 27 is patentable over Spragins because Spragins does not disclose or suggest an apparatus having the claimed means for transmitting to the claimed broadcast station in a format including receive state information indicating the sequence number of the last in sequence of the received frames, but not including a transmit state field. Claim 28, which incorporates the limitations of claim 27, is patentable over Spragins for at least the same reason that claim 27 is considered patentable.

Claim 29 is similarly patentable over Spragins because Spragins does not disclose or suggest a method having the step of transmitting to the claimed broadcast station in a format including receive state information indicating the sequence number of the last in sequence of the received frames, but not including a transmit state field. Claim 30, which

incorporates the limitations of claim 29, is patentable over Spragins for at least the same reason that claim 29 is considered patentable.

Consequently, Applicants respectfully request that the Examiner withdraw this rejection and allow claims 19, 20, 22, 23 and 27-30.

The Rejection Under 35 U.S.C. § 103(a) Over Wiedeman In View Of Smolinske

Claims 1-4 of the parent application were rejected under 35 U.S.C. § 103(a) as unpatentable over Wiedeman, U.S. Patent No. 5,303,286, in view of Smolinske et al. (Smolinske), U.S. Patent No. 5,487,068.

Applicants respectfully submit that the present invention according to any of claims 1-4 is patentable over Wiedeman in view of Smolinske. Applicants respectfully submit that even if Wiedeman and Smolinske are combined, the device resulting from the combination is not the present invention.

Applicants again submit that there is no disclosure in Wiedeman or Smolinske of broadcasting of data relating to the status of user terminals in a mobile communication system from a central station to a plurality of location stations, as the term "broadcasting" is understood in the art. Applicants submit that the base term "broadcast" is used for denoting a general and non-addressed transmission of data to at least one receiving station. in spec? That is, the data that is transmitted is not addressed to any specific receiving station, but is

transmitted so that all receiving stations intended to receive the message receive the same message.

The present invention of claim 1 requires that the apparatus include means for broadcasting data in a common channel receivable by each of the claimed local stations. Wiedeman, however, does not disclose or suggest use of broadcast in the sense of the present invention. The databases disclosed by Wiedeman are updated by a packet switched terrestrial network. (See Wiedeman, column 15). Thus, each respective message containing data relating to the status of user terminals is not broadcast by Wiedeman in the sense of the invention, but is transmitted (broadcast) specifically addressed for the intended receiving station. Consequently, only the receiving station intended by Wiedeman to receive the message receives is the receiving station specifically identified by the addressing. Accordingly, Wiedeman requires that different messages having the same or similar data content be transmitted to correspondingly different receiving stations. Smolinske, on the other hand, relates to data transmission in a packet-switched communication system where data is divided into packets and transmitted via a specific route to a predetermined destination. In other words, the data transmitted by the Smolinske system is addressed to a specific receiving station.

In the final Office Action, the Examiner refers to the similarity of Figure 1 of the present invention and Figure 2 of Wiedeman. Applicants agree that these two figures appear similar, but only to the extent of the high-level concepts depicted in each figure. In

that regard, Applicants agree that both figures show a satellite communicating to land earth stations through various signal paths.

Two differences between the two inventions that are not apparent when merely comparing the two figures are (1) the nature of the signals and (2) the nature of the signal paths shown in each figure. Regarding the nature of the signals, the signals paths depicted between satellite 8 and land earth stations LES in Figure 1 of the present invention each carry a single message (that is, the exact same message) containing data relating to the status of user terminals in a mobile communication system for storage at the respective land earth stations. Thus, the nature of the message is a single message, and not three separate messages that are each respectively addressed for a different land earth station. Regarding the nature of the signal paths, three separate signal paths are shown because the single message of the present invention is intended for three separate land earth stations LES. It should be kept in mind that only signal paths, not messages, are shown in Figure 1.

In contrast, none of the signal paths between satellite 22 and a land earth station shown in Figure 2 of Wiedeman represents a message containing data relating to the status of user terminals in a mobile communication system for storage at a plurality of land earth stations. Thus, the nature of a Wiedeman signal traversing a Wiedeman signal path does not correspond to the nature of the single message of the present invention. Regarding the nature of the Wiedeman signal paths, the Wiedeman message includes specific addressing for a specific land earth station so only one signal path need be shown in Figure 2. To only

consider the similarities between Figure 1 of the invention and Figure 2 of Wiedeman plainly ignores the respective differences between the two inventions, as set forth by their respective disclosures.

With respect to the Examiner's comments regarding the common channel of claim 1, Applicants respectfully submit that the claimed common channel is any communication medium that supports broadcasting in the sense of the present invention. That is, the common channel of the present invention is any communication medium that supports a general and non-addressed transmission of data to at least one receiving station. Further, the claimed invention does not require error control, such as defined by HDLC protocols, but actually improves upon such error control techniques.

Thus, claim 1 is patentable over Wiedeman in view of Smolinske. Further, claim 2, which incorporates the limitations of claim 1, is patentable over Wiedeman in view of Smolinske for at least the same reason that claim 1 is considered patentable.

Regarding claim 3, Applicants respectfully submit that claim 3 is patentable over Wiedeman in view of Smolinske for reasons that are similar to the reasons that claim 1 is considered patentable. That is, neither Wiedeman nor Smolinske disclose or suggest a method of broadcasting data, as set forth above. Additionally, claim 4, which incorporates the limitations of claim 3, is patentable over Wiedeman in view of Smolinske for at least the same reason that claim 3 is considered patentable.

Consequently, Applicants respectfully request that the Examiner withdraw this rejection and allow claims 1-4.

The Rejection Under 35 U.S.C. § 103(a) Over Smolinske In View of Spragins

Claims 9 and 10 of the parent application were rejected under 35 U.S.C. § 103(a) as unpatentable over Smolinske in view of Spragins.

Applicants have amended each of claims 9 and 10 so that they are respectively directed to an apparatus and a method for broadcasting data to a plurality of data receiving stations. In that regard, claim 9 now requires means for broadcasting the claimed data in a common channel receivable by each of the receiving stations in a format comprising a plurality of frames. Claim 9 also now requires means for broadcasting the claimed selected frames to each of the receiving stations in response to the error correction request signals and means for receiving from each of the receiving stations acknowledgment signals indicating the earliest of the frames which has not been received by that station, such that the means for broadcasting is operable to broadcast a new frame that has not been previously broadcast only if a sequential order of the new frame is not greater than a sequence order of the earliest of the frames that has been indicated to not have been received by any one of the receiving stations by a predetermined number. Claim 10 has been similarly amended.

Applicants again respectfully submit that the present invention according to either of amended claims 9 and 10, is patentable over Smolinske in view of Spragins. Regarding amended claim 9, neither Smolinske nor Spragins disclose or suggest an apparatus for broadcasting data to a plurality of data receiving stations that includes means for broadcasting the claimed data in a common channel receivable by each of the receiving stations in a format comprising a plurality of frames.

Additionally, neither Smolinske nor Spragins disclose or suggest an apparatus for broadcasting data to a plurality of data receiving stations that includes means for broadcasting the claimed selected frames to each of the receiving stations in response to the error correction request signals and means for receiving from each of the receiving stations acknowledgment signals indicating the earliest of the frames that has not been received by that station, such that the means for broadcasting is operable to broadcast a new frame that has not been previously broadcast only if a sequential order of the new frame is not greater than a sequence order of the earliest of the frames that has been indicated to not have been received by any one of the receiving stations by a predetermined number.

Regarding claim 10, Applicants respectfully submit that claim 10 is patentable over Smolinske in view of Spragins for reasons that are similar to the reasons that claim 9 is considered patentable.

Consequently, Applicants respectfully request that the Examiner withdraw this rejection and allow claims 9 and 10.

The Rejection Under 35 U.S.C. § 103(a) Over Smolinske In View of Ellis



Claims 11-16 of the parent application were rejected under 35 U.S.C. § 103(a) unpatentable over Smolinske in view of Ellis et al. (Ellis), U.S. Patent No. 5,497,371.

Applicants have amended claim 11 so that claim 11 now requires means for broadcasting data in a common channel receivable by each of the receiving stations in a format comprising a plurality of frames, and means for broadcasting the claimed selected frames to each of the receiving stations in response to the error correction request signals, such that the frames are broadcast in a format including frame sequence information indicating the sequence of each frame, but not including receive state information indicating the sequence of any frames received from any of the receive stations. Claim 14 has been similarly amended.

Applicants respectfully submit that the present invention according to any of claims 11-16, as amended, is patentable over Smolinske in view of Ellis. Specifically, the device resulting from the combination of Smolinske and Ellis is not the present invention according to any of claims 11-16.

Regarding amended claim 11, neither Smolinske nor Ellis disclose an apparatus for broadcasting data. As submitted above, the term "broadcast" is used in the art to denote a general and non-addressed transmission of data to at least one receiving station. That is, the data that is transmitted is not addressed to any specific receiving station, but is

transmitted so that all receiving stations intended to receive the message receive the same message.

Further, neither Smolinske nor Ellis disclose or suggest means for broadcasting the claimed data in a common channel receivable by each of the receiving stations in a format comprising a plurality of frames. There is no disclosure in Smolinske or in Ellis of a system in which data is broadcast in a common channel.

Additionally, neither Smolinske nor Ellis disclose or suggest means for broadcasting data in a common channel receivable by each of the receiving stations in a format comprising a plurality of frames. Further still, neither Smolinske nor Ellis disclose or suggest means for broadcasting the claimed selected frames to each of the receiving stations in response to the error correction request signals such that the frames are broadcast in a format including frame sequence information indicating the sequence of each frame, but not including receive state information indicating the sequence of any frames received from any of the receive stations.

Thus, amended claim 11 is patentable over Smolinske in view of Ellis. Applicants respectfully submit that claims 12 and 13, which each incorporate the limitations of amended claim 11, are each patentable over Smolinske in view of Ellis for at least the same reasons that amended claim 11 is considered patentable.

Amended claim 14 is patentable over Smolinske in view of Ellis for reasons that are similar to the reasons that amended claim 11 is considered patentable.

Consequently, Applicants respectfully request that the Examiner withdraw this rejection and allow claims 11-16.

The Rejection Under 35 U.S.C. § 103(a) Over Spragins.

Claims 21/19, 21/20, 24/22 and 24/23 of the parent application were rejected under 35 U.S.C. § 103(a) as unpatentable over Spragins.

Applicants respectfully submit that the present invention according to any of claims 21/19, 21/20, 24/22 and 24/23 is patentable of Spragins. As demonstrated above, claims 19 and 22, the base claims of 21/19, 21/20, 24/22 and 24/23, are each patentable over Spragins. Specifically regarding claim 19, Spragins does not disclose an apparatus for receiving data from a broadcast station having means for transmitting to the broadcast station at predetermined intervals an error status signal. Instead, Spragins discloses error correction request signal is used that indicates negative acknowledgment or selected ones of frames that were not received correctly. According to Spragins, the nature of the error that the error correction request signal is used for is a random event. Similar reasoning applies to claim 22.

Consequently, claims 21/19, 21/20, 24/22 and 24/23 are each patentable over Spragins, and Applicants respectfully request that the Examiner withdraw this rejection.

**The Rejection Under 35 U.S.C. § 103(a) Over Wiedeman
In View Of Smolinske And Spragins**

Claims 31/1/2, 31/9, 31/11/12/13, 31/19/20, 31/27/28, 32/3/4, 32/10, 32/14/15/16, 32/22/23, 32/29/30, 33/9, 33/11/12/13, 33/19/20, 33/27/28, 34/10, 34/14/15/16, 34/22/23 and 34/29/30 of the parent application were rejected under 35 U.S.C. § 103(a) as unpatentable over Wiedeman in view of Smolinske and Spragins.

Applicants respectfully submit that the present invention according to any of claims 31/1/2, 31/9, 31/11/12/13, 31/19/20, 31/27/28, 32/3/4, 32/10, 32/14/15/16, 32/22/23, 32/29/30, 33/9, 33/11/12/13, 33/19/20, 33/27/28, 34/10, 34/14/15/16, 34/22/23 and 34/29/30 is patentable over Wiedeman in view of Smolinske and Spragins because each of the respective base claims for these claims is patentable over Wiedeman in view of Smolinske and Spragins, as demonstrated above.

Thus, Applicants respectfully request that the Examiner withdraw this rejection and allow claims 31-34.



Newly Added Claims

Applicants respectfully request that the Examiner enter claims 39-50. Support for these claims can be found throughout the specification, and specifically at page 4, lines 10-14.

Applicants respectfully submit that each of claims 39-50 is allowable because none of the applied art discloses the concept of unsolicited error correction request signals.

Thus, Applicants respectfully request that the Examiner allow claims 39-50.

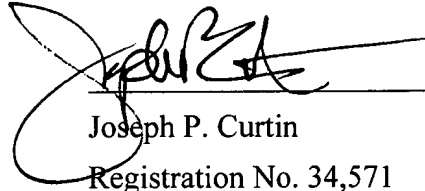
CONCLUSION

Applicants look forward to prosecution on the merits. Should the Examiner find that a telephonic or personal interview would expedite passage to issue of the present application, the Examiner is encouraged to contact the undersigned attorney at the telephone number indicated below.

It is requested that this application be passed to issue with claims 1-16, 19-24 and 27-50.

Respectfully submitted,

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